

## **REMARKS**

Applicants respectfully request reconsideration and allowance of all pending claims.

### **1. Amendments to the Specification**

Paragraphs [0022] and [0026] have been amended to correct a typographical error therein. Specifically, the group of six structures has been amended to delete the fourth and fifth structures in the group, which erroneously include a carbon atom with five bonds attached thereto.

### **2. Status of the Claims**

In this Amendment C, claims 15 and 20 have been amended, and claims 25, 26 and 27 have been canceled. Specifically, claims 15 and 20 have been amended to incorporate language from canceled claim 27, further defining  $R_1$  and  $R_2$ .

Accordingly, claims 15-17, 20-24, 28 and 32-36 are now pending and under consideration.

### **3. Restriction and Election of Species**

Regarding the Office's position that claims 25 and 26 are not readable on the elected invention, Applicants note that claims 25 and 26 are canceled. Thus, this issue would appear to be moot. Applicants respectfully reserve the right to pursue the subject matter of these claims in continuing applications at a later time.

Regarding the Office's position that claims 35 and 36 are withdrawn from consideration for the same reasons that were set forth regarding claims 25 and 26, Applicants point out that claims 35 and 36 are materially different in such a way as to render the Office's position improper. Specifically, canceled claims 25 and 26 are directed to a solid phase bound organic conjugate wherein the organic conjugate is in contact with a solution of  $[M(H_2O)_3(CO)_3]^{n+}$ . In contrast, claims 35 and 36 are directed to a kit comprising a container, a solid phase bound organic conjugate in said container, and a solution of  $[M(H_2O)_3(CO)_3]^{n+}$ . Here, the solution is not expressly in contact with the conjugate, as in claims 25 and 26. Applicants point out that following the logic of the Office's withdrawal of claims 25 and 26, the solution of claims 35 and

36 would, necessarily, not be in contact with the organic conjugate, otherwise the organic conjugate would no longer be bound to the solid phase support.

Applicant further notes that claim 22, from which claims 35 and 36 depend directly and indirectly, respectively, is not presently withdrawn. Claims 35 and 36 merely specify the metal of the solution of  $[M(H_2O)_3(CO)_3]^{n+}$ , the solution being a recited limitation of claim 22. The further specification of the metal in claims 35 and 36 adds nothing that would alter Applicants' assertion above regarding the fact that the solution must not be in contact with the solid phase bound organic conjugate.

In view of the foregoing, Applicants respectfully request that the withdrawal of claims 35 and 36 be reversed, and that claims 35 and 36 be examined on the merits.

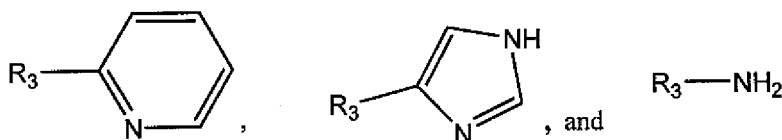
#### 4. Priority

Applicants have noted the Office's comments regarding the priority date to which the present claims are entitled. Applicants have not addressed this matter herein, as it seems unnecessary to do so at this time, but respectfully reserve the right to do so at a later date.

#### 5. 35 U.S.C. §102 Rejection

Claims 15, 20, 21 and 24 are rejected under 35 U.S.C. §102(b) as being anticipated by Aya et al. (U.S. Patent No. 3,899,472). Specifically, Aya et al. is cited as teaching polystyrene derivatized with iminodiacetic acid, as a solid phase support. The methyl group is allegedly analogous to the carbon atom of claim 15, with  $R_4$  and  $R_5$  being hydrogen, and with the COOH groups being analogous to the metal coordinating groups set forth in claim 15.

Applicants note that claims 15 and 20 have been amended to indicate that at least one of  $R_1$  and  $R_2$  are selected from the group consisting of three different substituents, as illustrated below:



None of these substituents are disclosed or suggested by Aya et al. More specifically, Aya et al. fail to disclose a cyclic substituent or an alkyl amine substituent on the nitrogen atom. Rather, Aya et al. only disclose the diacid, or diacid salt. Thus, Aya et al. do not disclose each and

every limitation of claims 15 and 20, and therefore do not anticipate these claims. Since claims 21 and 24 depend from claim 20, they are not anticipated by Aya et al. for at least the reasons put forth with respect to claims 15 and 20. Applicants therefore respectfully request reconsideration and withdrawal of this rejection.

#### 6. 35 U.S.C. §103 Rejections

Claims 15-17, 20, 21, 24, 28 and 32-34 are rejected under 35 U.S.C. §103(a) as being unpatentable over Aya et al. (U.S. Patent No. 3,899,472) in view of Dunn-Dufault et al. (Nuclear Medicine and Biology, 2000, 27:803-807). Specifically, Aya et al. is cited as detailed above under the 102 rejection, and Dunn-Dufault et al. is cited as teaching biologically active small molecules such as biotin (claims 16, 28, 32, 33) and polyethyleneglycol-polystyrene supports (claims 17, 34).

Additionally, claims 22 and 23 are rejected under 35 U.S.C. §103(a) as being unpatentable over Aya et al., in view of Dunn-Dufault et al. and further in view of Alberto et al. (JACS, 1998, 120:7987-7988). Specifically, Aya et al. in view of Dunn-Dufault et al. are cited as above, while Alberto et al. is cited as teaching solutions or reagents for the preparation of  $[M(H_2O)_3(CO)_3]^{n+}$ .

As set forth in M.P.E.P. §2143, in order for the Office to establish a *prima facie* case of obviousness, three basic criteria must be met: (1) the prior art references, when combined, must disclose each and every element of the claim; (2) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine or modify the references; and (3) there must be some reasonable expectation of success. An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. The common sense of those skilled in the art can demonstrate why some modifications and/or combinations would have been obvious where others would not. As noted in the Examination Guidelines For Determining Obviousness Under 35 U.S.C. §103(a) in view of the Supreme Court decision in *KSR Int'l Co. v. Teleflex, Inc., et al.*, the Office must provide an explanation to support any obviousness rejection.

Applicants respectfully submit the Office has failed to establish a *prima facie* case of obviousness because **each and every element of the claims has not been disclosed or suggested** by the cited references. Additionally, or alternatively, Applicants respectfully submit

the Office has failed to establish a *prima facie* case of obviousness because there is simply **no motivation** to combined or modify the cited references as suggested by the Office.

**A. Aya et al. and Dunn-Dufault et al.**

As detailed above with respect to the rejection under 35 U.S.C. §102, Aya et al. fail to teach a solid phase bound organic conjugate wherein at least one of the R<sub>1</sub> and R<sub>2</sub> substituents on the nitrogen atom are selected from the group consisting of the three substituents listed in claims 15 and 20. Dunn-Dufault et al. do not address this deficiency of Aya et al. More specifically, Dunn-Dufault et al. do not show the nitrogen atom substituted in this way; that is, the cited combination of references **fails to disclose or suggest each and every element** of the rejected claims. In fact, Dunn-Dufault arguably **teach away** from such substituents, because they **only** show the nitrogen atom as part of a heterocyclic ring. This configuration is **distinctly different** from that of Aya et al. and/or the subject matter of the rejected claims.

Applicants additionally submit that **motivation is simply not provided** by the Office or by the cited combination of references to prepare the claimed solid phase bound organic conjugate, or a kit comprising it. Specifically, as noted above, Dunn-Dufault et al. arguably **teach away** from the R<sub>1</sub> and R<sub>2</sub> substituents of claims 15 and 20, because Dunn-Dufault et al. **only** show the nitrogen atom as part of a heterocyclic ring. Thus, a person of ordinary skill in the art would have **no motivation** to modify the structures of Aya et al. with the structure of Dunn-Dufault et al. in order to arrive at the claimed structures, because Dunn-Dufault et al. teach a configuration that is **distinctly different** from Aya et al. and/or the subject matter of the rejected claims.

In view of the foregoing, Applicants respectfully submit the combination of Aya et al. and Dunn-Dufault et al. **fails to disclose or suggest each and every element** of claims 15 and 20. Additionally, or alternatively, Applicants submit there is simply **no motivation** to combine or modify the cited references as suggested by the Office. Claims 15 and 20 are therefore not obvious in view of the cited references. Since claims 16, 17, 21, 24, 28 and 32-34 depend either directly or indirectly from claims 15 or 20, these claims are also not obvious in view of the cited references for at least the same reasons as those set forth with respect to claims 15 and 20. Applicants therefore respectfully request reconsideration and withdrawal of the present rejection.

**B. Alberto et al.**

Claims 22 and 23 depend from claim 20, and thus include all of the limitations therein. Accordingly, these claims are submitted as patentable over the cited combination of Aya et al. and Dunn-Dufault et al. for the reasons set forth above with respect to claim 20. Applicants further submit that the Alberto et al. does not cure the deficiency of the combination of Aya et al. and Dunn-Dufault et al., as it merely teaches solutions or reagents for the preparation of  $[M(H_2O)_3(CO)_3]^{n+}$ ; that is, the addition of Alberto et al. does not change the fact that the cited combination of references **fails to disclose or suggest each and every element** of the rejected claims, and/or that there is simply **no motivation** to combine or modify the cited references as suggested by the Office.

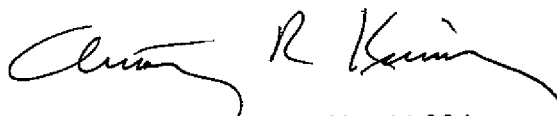
Accordingly, Applicants respectfully submit that claims 22 and 23 are not obvious in view of the cited combination of references. Applicants therefore requests reconsideration and withdrawal of this rejection.

**CONCLUSION**

In view of the foregoing, Applicants request favorable reconsideration and allowance of all pending claims.

The Commissioner is hereby authorized to charge Deposit Account No. 13-1160, should any fees be due at this time.

Respectfully submitted,



Anthony R. Kinney, Reg. No. 44,834  
Mallinckrodt Inc.  
675 McDonnell Boulevard  
Hazelwood, Missouri 63042  
(314) 654-3960

Mail Stop Amendment